

Appendix IV

DOT Program Evaluation Plan

The DOT Strategic Plan sets our long-term goals, and we track progress toward those goals with performance measures. But since our goals are expressed in terms of outcomes, DOT rarely controls the results. Therefore, performance measures often don't tell the whole story – they don't show our contribution to the effect we are measuring. Performance measures do show if intended outcomes are occurring and assess any trends. Program evaluation uses analytic techniques to assess the extent to which our programs are contributing to those outcomes and trends.

GPRA requires agencies to develop a schedule of program evaluations for inclusion in their strategic plans. The DOT schedule was included in the 1997-2002 plan as an initial list. This appendix provides a more complete list of planned program evaluations, along with the DOT plan for managing program evaluation within the Department.

Types of Program Evaluations: Program evaluation is an assessment, through objective measurement and systematic analysis, of the manner and extent to which programs achieve intended objectives. While DOT currently conducts evaluations, audits, studies, and other assessments of its programs or processes, these studies vary in rigor and quantitative focus. NHTSA's evaluations of vehicle standards and crash outcomes set a benchmark for systematic empirical study of the causal link between a government intervention and its results. Other studies are often less quantitative and systematic in approach.

The purpose of this program evaluation plan is to improve the analytic content of evaluations Department-wide in order to support the management of DOT programs for results. While there is a wide range of studies and evaluations that currently assist DOT managers, this plan will restrict itself to those evaluations that meet the precepts of program evaluation:

- *Impact Evaluations* use empirical data to compare measurable program outcomes with what would have happened in the absence of the program. These represent the highest standard of program evaluation, and

are often the most difficult and expensive to construct and interpret.

- *Outcome Evaluations* assess the extent to which programs achieve their outcome oriented objectives. Outcome evaluations will use quantitative methods to assess program effectiveness, but fall short of the rigorous causal analysis of impact evaluations.
- *Process Evaluations* assess the extent to which a program is operating as intended. While a true process evaluation will use objective measurement and analysis, it falls short of assessing the causal links between intervention and outcome. For this reason, process evaluations are usually less useful than impact evaluations.
- *Cost-Benefit and Cost-Effectiveness Analyses* compare a program's outputs or outcomes with the costs to produce them. This type of analysis conforms with program evaluation when applied systematically to existing programs and when measurable outputs and outcomes are monetized.

Program evaluations are retrospective, quantitative assessments of existing programs. Forecasts of the impact of proposed or planned pro-

grams are considered part of policy analysis, and are not considered in this evaluation plan.

Program Evaluation Schedule: The aim of this plan is not to eliminate or replace existing evaluations or evaluation capacity in the Operating Administrations. This plan aims instead to identify new areas of program evaluation and elevate existing evaluation efforts for:

- Programs that represent significant DOT activities contributing to our strategic goals.
- Programs that are cross modal in nature, or would benefit from evaluation that is reviewed outside any single Operating Administration.
- Programs where Department-wide expertise can assist in evaluation planning and review.

Program Evaluation Management: We will manage program evaluations within DOT through the following steps:

1. Program evaluations (selected by the previous criteria) will become part of the DOT schedule of evaluations, as required in the strategic plan.
2. A Program Evaluation Council (PEC) has been established, comprised of one representative from each Operating Administration and select Secretarial Offices. The PEC will review proposals for program evaluations, provide technical guidance and share information across modes, monitor ongoing evaluations, and conduct peer review of finished evaluations.
3. The PEC will report to senior management periodically on the status of the schedule of program evaluations, as well as their quality.

Program evaluations may be done by DOT staff, contractors, or academic institutions. PEC and senior management review are designed to insure that the finished evaluations are credible and useful regardless of how they are accomplished.

The Office of Budget and Programs and the Inspector General will manage the schedule of program evaluations, foster training and development of program evaluation skills, and review the quality of the program evaluation process. The Office of Budget and Programs will work to ensure that the results of program evaluations are considered in the allocation of resources. The Office of the Inspector General will continue its own program evaluations independent of this schedule, as deemed appropriate.

Part of the objective of the DOT program evaluation plan is to develop the analytic and evaluative skills necessary to frame sound evaluations. With these same skills, we hope to introduce analytic methodologies into the design of new, or pilot, activities regardless of whether these programs merit a rigorous program evaluation. In this way we hope to complement DOT's annual performance measurement with constant program-level inquiry into the causal relationship between various activities and the net results observed.

The list of 30 program evaluations that follow represent an expansion of the list found in the current DOT Strategic Plan. Because these evaluations will require staff or funding resources and are planned over a multi-year period, the final evaluation schedule may be subject to actual staff and budget levels. The first five are scheduled for completion in 1999. Twelve will be done in 2000.

Program Evaluations Proposed for 1999-2002

Program Evaluation	Safety	Mobility	EG & Trade	Environment	National Security	Methodology	Scope	Estimated Completion Date
Evaluation of the Livable Communities Initiative (FTA)		X				Combination	Evaluation of the impact of the Livable Community Initiative on personal mobility, access to services, transportation performance, and quality of life in communities.	1999
Acquisition of Equipment and Materials (FAA)		X				Combination	Evaluate the impact of acquisition reforms on the timely and cost effective acquisition of equipment and materials.	1999
Federally Funded Maritime Education and Training (MARAD)					X	Combination	Study of the impact of the federally funded education (state and federal schools, including Student Incentive Programs) on the availability of mariners for defense mobility.	1999
Safety and Capacity Benefits of Selected ITS Technologies (FHWA)	X	X				Combination	Series of evaluations of the impact and benefits of ITS operations on 1) Safety, and 2) Capacity.	1999-2002
Information Collection Program (OST S-80)						Longitudinal	Evaluation of the application of information technology in reducing the paperwork burden on DOT information collections.	1999
Job Access and Reverse Commute (FTA)			X				Evaluation of welfare to work initiatives. Because programs are still in development, initial efforts may be process evaluations.	2000
International Aviation Competition (OST-X)			X			Combination	Evaluation of the economic impact of eliminating bilateral restrictions on aviation in international markets.	2000

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Program Evaluation	Safety	Mobility	EG & Trade	Environment	National Security	Methodology	Scope	Estimated Completion Date
DOT-wide Hazardous Material Compliance and Enforcement Program (Multi-modal)	X			X		Combination	Evaluation of DOT's approach to compliance and enforcement to determine if it optimizes hazardous materials safety.	2000
State Initiatives to Reduce Fatal Truck Crashes (FHWA)	X					Cross-Sectional	Study of initiatives in ten states with the highest number of truck crashes. Evaluation will look at effectiveness of safety initiatives and compare to non-participating states.	2000
Safe Communities (NHTSA)	X					Longitudinal & Statistical	Evaluation of Safe Community Program, assessing safety outcomes in different communities.	2000
Elimination of Sub-Standard Vessels (USCG)	X			X		Combination	Evaluation of the impact of program to eliminate noncompliant vessels on major and medium oil spills and marine casualty rates.	2000
Personal Flotation Device (PFD) Wear Rates and Wearability (USCG)	X					Combination	Evaluation of the relationship between PFD wear rates and changes in wearability as result of PFD design improvements. (Note: Small eval w/ potentially high influence, since as many as 60% of recreational boating fatalities might be prevented by wearing a PFD.)	2000
Navigation Aid Mix System Analysis (USCG)	X	X	X			Combination	Evaluate the relative effectiveness of electronic, audio, visual and other aids to navigation to determine the most effective mix of aids to facilitate safe, efficient movement of waterborne traffic.	2000

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Program Evaluation	Safety	Mobility	EG & Trade	Environment	National Security	Methodology	Scope	Estimated Completion Date
Essential Air Service (OST-X)		X	X			Combination	Assessment of relationships between (1) the characteristics of communities served and type and frequency of subsidized air service and (2) the mobility and economic growth and trade benefits of such service.	2000
Maritime Security Program (MSP) & Volunteer Intermodal Sealift Agreement (VISA) (MA-RAD)					X	Combination	Evaluation of the impact of MSP/VISA in achieving DOT national security goals of 1) ensuring the readiness and capability of commercial transportation to meet national defense needs and 2) ensuring transportation infrastructure and technology is adequate to facilitate military logistics during training exercise and mobilization.	2000
Restriction Reduction Plan (FAA)		X				Longitudinal	Evaluation of the impact of initiatives to reduce restrictions constraining the NAS. Specific programs to be assessed include the National Route Program, the Published Route Program, and the formal restriction process.	2000
Security for Baggage and Passengers (FAA)	X				X	Combination	Evaluation of the impact of selection, training, certification and other initiatives on the performance of screeners in detecting improvised explosive devices, weapons, and other dangerous articles.	2000
Pipeline Risk Management Project (RSPA)	X			X		Longitudinal	Evaluation of whether pipeline operations based on risk management result in greater safety and service reliability.	2001

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Program Evaluation	Safety	Mobility	EG & Trade	Environment	National Security	Methodology	Scope	Estimated Completion Date
Seatbelt Campaign (NHTSA)	X					Cross-Sectional	Evaluation of "70 by '92" campaign to determine which state programs were able to influence the greatest change in seatbelt use.	2001
Pavement Condition Benefits (FHWA)		X	X			Combination	Evaluation of the impact of pavement condition on road user savings	2001
Border Crossing Efficiency (FHWA)		X	X			Longitudinal	Evaluation of the Border Crossing initiatives to assess their impact on crossing efficiency.	2001
Lifecycle-costs (FHWA)			X			Longitudinal	Evaluation of the impact on life-cycle cost of selected highway technologies.	2001
Selected Safety Initiatives TBD (FHWA)	X					Longitudinal	Evaluation of highway safety improvement programs, including benefit-cost.	2001
Innovative Financing of Surface Infrastructure (FHWA)			X			Longitudinal	Evaluation (and assessment) of leveraging effects and other benefits/impacts of selected innovative finance techniques, particularly TEA-21 loan programs.	2001
Intermodal Connector Improvements (FHWA)		X	X			Combination	Evaluation of the impact of selected intermodal connector improvements, such as the Alameda Corridor.	2002
Maritime Safety Program Impact (USCG)	X						Evaluation of the relative impact of various strategies, e.g., prevention vs. response, on maritime fatalities, injuries and property damage.	2002

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Program Evaluation	Safety	Mobility	EG & Trade	Environment	National Security	Methodology	Scope	Estimated Completion Date
Great Lakes Ice-breaking (USCG)		X	X			Combination	Evaluation of Impact of Great Lakes icebreaking on mobility of goods and extent that activities are meeting customer requirements.	2002
State Infrastructure Banks (FHWA, FTA, FRA)	X	X	X			Longitudinal & Cross-Sectional	Evaluation of funding leveraged from SIBs and the impact of the program on strategic outcomes.	2002
Amtrak Trip Time Reduction between Boston and New York (FRA)	X	X		X		Longitudinal	Evaluation of impact of trip-time reduction on Amtrak revenues, the shift of ridership from other modes, and other outcomes. Study contingent on funding for trip-time reduction elements in FY-98 & FY-99	2002
Grade-Crossing Closure and Warning Device Installation (FRA)	X					Combination	Evaluation of the impact of preventative approaches to the reduction of at-grade railroad crossing crashes.	2002

Methodology Key:

- Longitudinal - Study of datum points or data series before and after intervention
- Cross Sectional - Study of different groups or sites at the same point in time
- Statistical - Regression analysis, etc.
- Combination - Use of two or more complementary analytic techniques